

Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

PROCEEDINGS OF SOCIETIES.

ACADEMY OF NATURAL SCIENCES, Philadelphia. — June 27th. The meeting was attended by Dom Pedro II., Emperor of Brazil, and his minister plenipotentiary, Senhor A. P. Carvalho de Borges.

Dr. Leidy made a communication upon the structure and life of the Rhizopods. The formation of the shells of the Difflugians was described, and a number of forms were figured.

Professor Cope called attention to certain mammalian remains from the neighborhood of Santa Fé. The specimens exhibited belonged to the *Mastodon productus*, which must have been very abundant in that region. The speaker dwelt upon the peculiarities which distinguished it from *Mastodon Ohioticus*, and gave at length the characters of the dentition.

The three prominent types of mammals from the Eocene, Miocene, and Upper Miocene formations of the West weredescribed and illustrated by fine specimens of skulls of *Loxolophodon cornutus, Symborodon acer*, and *S. altirostris*.

Professor Frazer described a collection of microscopic sections of igneous rocks, the peculiarities of which were exhibited by means of the screen and lantern. Certain Brazilian Dolerites were contrasted with others from York County, Pa.

Dr. Horn placed on record a method of distinguishing sexes in the genus *Amblycheila*, depending upon the shape of the trochanters.

July 11th. Mr. Gabb called attention to the use of borax as a substitute for alcohol in the preservation of animal tissues.

July 18th. Mr. Meehan exhibited specimens of *Senecio Jacobæa*, a hardy herbaceous plant which had recently flowered for the first time in fifteen years. He also gave the results of his observations on the mode of fertilization of Campanula, which he believed to be entirely independent of insect agency. The mode of fertilization of the dandelion and chiccory was also described and illustrated. Both of these plants were considered self-fertilizers.

Professor Cope spoke of the species of fossil dogs found in the Santa Fé marl. The vertebrates found in that formation now number thirty-two, including eleven species of Canis. These are all extinct, with the exception of one species of wolf, the *Canis cævis* of Leidy. This was believed to be identical with the living wolf, which was considered to be specifically identical with the common dog. The species mentioned originated in the Upper Miocene and persists to the present day. A new form was described under the name of *Canis Wheelerianus*. The relative size and other characters of the species heretofore described were given.

The number of species of fossil deer found in the formation spoken of was increased from four to six, the two new forms being named

Dicrocerus trilateralis and *Dicrocerus tehuanus.* In answer to Dr. McQuillen, Professor Cope stated that he had at one time supposed that the burrs on certain of the antlers of the fossil deer indicated the seat of fractures, but he had not in all cases been able to find evidence supporting this view. The fact was also pointed out that these antlers had a superficial coating or epidermis which would be sufficient to hold the fractured pieces in place.

ACADEMY OF SCIENCES, St. Louis. — May 15th. Judge Holmes remarked as follows upon man and the elephant in Nebraska. In Dr. Hayden's Annual Report of the United States Geological Survey for the year 1874, recently published, appears the report of Dr. Samuel Aughey on the Loess deposits of Nebraska. It is stated that the Loess covers three fourths of the surface of that State, ranging in thickness from forty to one hundred and fifty feet, and extending westward from the Missouri River to a limit beyond Kearney and the Republican Fork.

The more important fact which he desired to notice was that Dr. Aughey, after some years of careful searching, had succeeded in finding imbedded in this deposit two distinctly-shaped and well-worked arrow-heads, which are figured in his report (page 255). One of them, a small arrow-head, was found at a depth of fifteen feet, at a place three miles east of Sioux City; the other, nearly four times larger, might very well have been a spear-head, and it was found at a place two and a half miles southeast of Omaha, and at a depth of twenty feet, and "thirteen inches above the point where it was found, and within three inches of being on a line with it, in undisturbed Loess, there was a lumbar vertebra of an elephant (*Elephus Americanus*)." The material is not named nor are measurements given. Flint chips are mentioned as found "in the bluffs" in Dakota County, but as not certainly of human origin.

The discovery is important as going to show the contemporaneity of man and the elephant on this continent during the period of the Loess. They must have inhabited together the shores of the great inland seas or expansions of the rivers, in which the Loess formation was deposited. It furnished the first distinct and incontrovertible proof of this fact that he was aware of. Bones of mastodon, elephant, and other extinct animals had been frequently found in the Loess of the Mississippi Valley, but hitherto no human remains had been ascertained with certainty to belong to it. Mr. Worthen, of the Illinois Geological Survey, had reported an instance of arrow-heads being found together with bones of extinct mammalia in an altered drift covered by Loess near Alton; but the circumstances, geologically considered, seemed to admit of some doubt on the question of their cotemporaneousness. But here no room would seem to be left for any other rational hypothesis. Both the arrow-head and the vertebra must have been deposited in the still waters of the lake, or been drifted to the spot by the same moving waters of the Loess period. The arrow-head, certainly, could not have

got there if it had belonged to a more recent period. But it is still possible that the vertebra may have been washed out of some older deposit by the action of rivers, and been swept down into the lake; or it may have been frozen into a mass of ice and been carried down by the river, and dropped to the bottom on the melting of the ice. The presence of mastodon bones with the arrow-head, in the Benton County case, has been accounted for in this way: The presence of the arrow-head proved the existence of man in the alluvial period only; but in this instance the arrow-head must have been contemporary with the older Loess deposit, and the bones of mastodon, elephant, and other extinct species of mammalia are so abundant in this deposit, not only in Nebraska but throughout the Mississippi Valley, that no doubt can remain that these animals were also contemporary with the Loess.

In the instances reported by the late Dr. Koch (Tranactions of the St. Louis Academy of Science, i. 61 and 117), of arrow-heads found together with the bones of mastodon, one in the alluvial bottom of the Pomme des Terres River in Benton County, Mo., and the other in the bottom land of the Bourbeuse River, in Gasconade County, Mo., it was possible to explain the facts stated by him as being the result of more recent changes in the local alluvial drift of the river channel. Dr. Wizlizenus (Ibid., page 168) endeavored to account for all the phenomena in this way, and in the latter case by supposing that Indian fires had been built over the spot at a time long subsequent to the deposit of the bones, and the whole afterwards covered by alluvial overflows. He was well acquainted with Dr. Koch, and did not question the veracity of his statements. Judge Holmes had himself assisted Dr. Koch in putting his article into shape for publication in the Transactions, and questioned him minutely as to the particulars stated, and could certify that the circumstances mentioned were positively asserted by him to be true. Nor had he any reason for doubting the truthfulness of Dr. Koch. As lately suggested by Professor J. D. Dana, it is true that Dr. Koch was not a thoroughly scientific and practical geologist, and perhaps he gave some scope to his imagination in the matter of theorizing upon his facts; but he had some experience in such things, and might be allowed to be capable of observing the facts which he stated, however incompetent to apply the requisite tests for a certain conclusion. But the facts observed and reported were not absolutely conclusive of the matter, though carrying much weight of probability.

In this new discovery in Nebraska we have facts well ascertained by a competent observer; they are not open to the same kind of explanation; and they seem to afford the necessary confirmation of the supposed contemporaneity of man and the mastodon and elephant in this valley.

Dr. George Engelmann gave some results of his observations on the venation of American oaks. He has observed great differences in the venation of different species, some having folded or conduplicate, and

others revolute foldings, and still others are concave and imbricated. But the venation does not seem to furnish characters distinguishing between the two principal sections, the white and black oaks.

June 5th. Dr. George Engelmann read a communication on certain fungi of the grape and oak.

Professor Riley exhibited specimens of the periodical Cicada, in the pupa and perfect states, recently received from Mr. Charles McCorkle, of Lexington, Va. Eight years ago Professor Riley had shown that there were thirteen as well as seventeen year races of this periodical Cicada, and in a chronological history of the species he had at that time predicted that "in the year 1876, and at intervals of seventeen years thereafter, they will in all probability appear from Raleigh, North Carolina, to near Petersburg, Virginia; in Rowan, Davie, Cabarras, and Iredell counties in North Carolina; in the valley of Virginia as far as the Blue Ridge on the east, the Potomac River on the north, the Tennessee and North Carolina lines on the south, and for several counties west; in the south part of St. Mary's County, Maryland, dividing the county about midway east and west; in Illinois about Alton; and in Sullivan and Knox counties, Indiana."

The specimens from Mr. McCorkle were proof of the correctness of the prediction in regard to Virginia. While this insect requires thirteen or seventeen years, according to the race, for its underground development, the actual development has never been watched from the egg to the mature insect. In 1868 he had collected together in a particular spot near this city a large number of the hatching eggs of a thirteen-year brood which will appear here again in 1881, and he had been able to obtain and note the development of the larvæ every year since. They are now about two thirds grown.

He also exhibited cocoons and spinning worms of the common mulberry silk-worm (*Sericaria mori*) reared on Osage orange. The worms were a cross between the best French and Japanese races, and he had reared them for five years on Osage orange with no reduction in quantity or quality of silk, and great increase of vigor and healthfulness. There is no reason why our ladies might not be dressed with silk from our own native hedges.

June 19th. Professor Riley exhibited specimens of a worm that was just at this time devastating the wheat fields of parts of Kansas, and particularly of Dickinson County. It does not eat the blades but attacks the heads. Professor Riley had determined the species to be *Leucania albilinea*, though the insect had never before been reported as injurious from the West. The species is generically allied to the common army worm, and may be popularly called the wheat-head caterpillar. As it had never till lately attracted unusual attention, too little was yet known of its habits to warrant any suggestion as to the best mode of destroying it.

Professor Riley also exhibited a specimen of *Doryphora decemlineata*, that was so completely covered with a mite parasite belonging to the *Gamasidæ*, and apparently the *Gamasus coleopteratorum* L., that the point of a needle could not be placed on any part of the beetle's body without touching one of the parasites. He estimated that there were over eight hundred of the mites, and they had killed their victim. Aside from the toad and other reptiles, the crow, rose-breasted grosbeak, and domestic fowls among birds, which prey on the potato pest, he had, in his reports, figured or described no less than twenty-three insect enemies that attack and kill it. Only one of these is a true parasite, and the mite exhibited made the second, or just two dozen insect enemies in all.

He mentioned the fact in this connection that the *Doryphora* had reached New Hampshire, and was doing great injury along the Atlantic coast.

The American Association for the Advancement of Science held its twenty-fifth meeting at Buffalo, commencing August 23d and closing August 30th. In point of numbers, the variety and quality of papers read, and the harmony of its sessions, it was quite equal to any of its predecessors ; while the warm hospitality with which the association was greeted by the citizens of Buffalo added a social charm peculiarly its own. The success of the meeting was largely due to the untiring endeavors of the local committee, and especially of Mr. Grote and Captain Dorr, and it is to be hoped that the Society of Natural Sciences, the initiator of the movement which brought the association to Buffalo, and the leader in its entertainment, may reap the reward that is its due in the higher esteem in which it will be held at home — the esteem it already has among kindred associations in the country.

The president, Prof. Wm. B. Rogers, guided the deliberations of the general session with marked grace and dignity, and, in his responses to the hospitalities proffered the association, his welcome to the foreign guests, and his parting words, showed that the wonderful felicity of diction, not to say eloquence, for which he was noted has not been dimmed by his long illness. This being " Centennial year," no less than sixteen foreign scientists of greater or less distinction were present, a number far exceeding that of any former meeting of the association ; most of them were chemists and physicists, but among those in whom the readers of the Naturalist are more generally interested were Professor Huxley, of England, and Drs. Torell, Lindahl, and Nordström, of Sweden. Drs. Torell and Lindahl indeed read papers before the Natural History Section, the former on the sources of the ancient glaciers of North America, the latter on the structure of the tongue in *Picus viridis*. Professor Huxley also spoke in general session of his impressions of America, in response to his welcome by President Rogers, and in Section B briefly discussed one of Dr. Wilder's papers on the brains of the lower vertebrates. A few papers were also read in the physical section

by others of the foreign guests. All this gave a certain interest to the meeting which is not likely to be surpassed in kind for many a year.

Two of the permanent committees offered extended reports: one on weights, measures, and coinage, the outcome of which was a series of resolutions passed unanimously, deprecating any revival of the double standard of value in this country; the other on zoölogical nomenclature, where the committee reported an irreconcilable difference of view on certain points and propounded a series of inquiries for discussion at a future meeting. This report was referred to Section B, which appointed a special committee to print and distribute the report, with a view of obtaining the written opinion of naturalists at large upon the questions involved.

The association took the initiative in proposing an international congress of geologists at Paris in 1878, "for the purpose of getting together comparative collections, maps, and sections, and for the settling of many obscure points relating to geological classification and nomenclature." The committee appointed to attend to the matter consists of Professors Rogers, Hall, Hitchcock, and Pumpelly, and Drs. Dawson, Newberry, and Hunt; and Drs. Torell and von Baumhauer and Professor Huxley were added to represent the purpose of the association in Europe.

Two hundred and five members and fellows entered their names upon the register, and one hundred and forty-two new members were elected; seventeen fellows were added, among them Dr. E. B. Andrews, Mr. L. S. Burbank, Dr. E. Coues, Dr. C. Rau, and Prof. Daniel Wilson, of the Natural History Section.

All of the addresses were able and were listened to with marked attention. Ex-President Hilgard spoke of the History and Progress of Geodetic Science; Vice-President Young of Section A treated of his own department of Solar Physics; Chairman Barker of the chemical subsection explained the modern scientific ideas concerning the atom and the molecule. Mr. Morgan disappointed those of the anthropological subsection who had looked to their chairman for an address, but he certainly made up for the omission by the number and value of papers on the Iroquois with which he afterwards favored them; indeed, the new subsection of anthropology was in general remarkably well sustained. Vice-President Morse of Section B gave a most valuable and extended critical review of what American students have done for the doctrine of evolution, the only fault to be found with which was that it needed a supplementary notice by another to show what the speaker himself had done. It would almost seem as if this address had given the key-note to the sessions of the section, for comparatively few papers were presented which did not at least show with how powerful an influence the doctrine of evolution had possessed the thoughts of the speaker; and, as remarked by Professor Morse on closing the sessions, so far were evolutionary views from eliciting a storm of dispute, as would have been

the case ten years ago, that exception had been taken to scarcely a single point. Unquestionably the most remarkable paper presented before this section was that by Dr. W. K. Brooks, of Boston, on proposed modifications in Darwin's theory of pangenesis, but space will not here permit a fair abstract; simpler even than that proposed by Darwin, it explained many points which were not met by the latter. One hundred and seventy-four papers were presented to the standing committee, of which all but about a dozen were read in full or by title; and these were almost equally divided between the physical and natural history sections.

The association was invited to meet at Nashville, Atlanta, and St. Louis; the first place was chosen, and August 29, 1877, selected as the opening day; the following are the officers elect: President, Professor Simon Newcomb, of Washington; Vice-Presidents: Section A, Professor E. C. Pickering, of Boston; Section B, Professor O. C. Marsh, of New Haven; Permanent Secretary, F. W. Putnam, of Salem; General Secretary, A. R. Grote, of Buffalo; Secretary Section A, Dr. H. C. Bolton, of New York; Section B, Lieutenant W. H. Dall, of Washington; Treasurer, W. S. Vaux, of Philadelphia; Chairman Subsection of Chemistry, Professor N. T. Lupton, of Nashville; Subsection of Microscopy, Dr. R. H. Ward, of Troy; Subsection of Anthropology, Professor Daniel Wilson, of Toronto.

The following papers were read in the order here given, under their respective subsections.

GEOLOGY AND NATURAL HISTORY.

W. H. Dall, On the Mode of Extrusion of the Ova in the Limpets. Burt G. Wilder, Notes on the North American Ganoids: (*a*) the Supposed Transformation of the Tail of *Amia;* (*b*) the Serrated Appendages of the Hyoid Isthmus of *Amia.* Warren Upham, On the Origin of Kames or Eskers in New Hampshire. Joshua Lindahl, Some new Points regarding the Tongue of *Picus viridis.* T. Sterry Hunt, On the Geology of Eastern Pennsylvania. James Hall, Note upon the Geological Position of the Serpentine Limestone of Northern New York, and an Inquiry regarding the Relations of this Limestone to the Eozoön Limestone of Canada. L. Elsberg, On the Plastidule Hypothesis. T. Meehan, On Self-Fertilization and Cross-Fertilization in Flowers. A. R. Grote and W. H. Pitt, The Water Lime Group of Buffalo. T. Meehan, On Graft Hybrids. W. K. Brooks, On the Provisional Hypothesis of Pangenesis. Albert H. Tuttle, On a new Species of Argulus. Burt G. Wilder, Notes on the Brains of the Fish-Like Vertebrates: (*a*) Myxinoids; (*b*) Sharks and Skates; (*c*) Chimera; (*d*) Teleosts. F. A. Gooch, A Note upon the Pitchstones of Arran. Fred. W. Simonds, On *Sycotypus* (*Busycon*) *canaliculatus* Linn. J. S. Newberry, The Relations of the Rocks of Ohio to those of Pennsylvania and New York.

J. S. Newberry, The Origin and Mode of Formation of the Great Lakes. O. C. Marsh, Principal Characters of American Peterodactyles. S. W. Garman, On a Variation in the Colors of Animals. Samuel H. Scudder, A Brief Comparison of the Butterfly Faunas of Europe and Eastern North America, with Hints concerning the Derivation of the Latter. W. H. Dall, On the Reciprocal Relations of certain Genera of Articulated Brachiopods. J. W. Dawson, New Facts relating to *Eozoön Canadense*. A. Winchell, On the Siphon of Endoceras, a Genus of Chambered Shells. J. Muir, On the Post-Glacial History of *Sequoia gigantea*. Burt G. Wilder, The Slight Morphological Value of Natural Attitude and Numerical Composition. Albert H. Tuttle, Notes on the Myriapods of Ohio. Wm. H. Seaman, Description of new Fungus on the Leaves of the Pear-Tree. P. R. Uhler, The Edible Crab of Maryland, *Callinectes hastatus* (Ordway). W. J. Beal, Phyllotaxis of Cones. W. J. Beal, Can the Unios see? W. J. Beal, Cross-Fertilization of Apple Blossoms W. J. Beal, Sensitive Stigmas as an Aid to Cross-Fertilization of Flowers. C. V. Riley, Biological Notes on the Army Worm (*Leucania unipuncta* Haw.). A. R. Grote, A Preliminary Note on *Menopoma Alleghaniensis* of Harlan.

ANTHROPOLOGY.

H. Gillman, Peculiarities of the Femora from Tumuli in Michigan. O. T. Mason, The Scope of Anthropology, and the Classification of its Materials. L. H. Morgan, The Iroquois Gens. H. Gillman, Some Observations on the Orbits of the Crania from Mounds. O. T. Mason, Archæological Collections from Porto Rico. Alessandro Castellani, Etruscan and Greek Art in Jewelry, and its Revival. Daniel Wilson, Hybridity and Absorption among the Races of the New World. J. W. Powell, On the Mythology of the North American Indians. L. H. Morgan, The Iroquois Phratry. D. Wilson, Brain-Weight and Size in Relation to the Relative Capacity of Races. G. H. Perkins, On some Fragments of Pottery from Vermont. O. T. Mason, The International Symbols for Charts of Prehistoric Archæology. L. H. Morgan, The Iroquois Confederacy. H. Gillman, Investigation of the Burial Mound at Fort Wayne on the Detroit River, Michigan. E. A. Barber, On the Ancient and Modern Pueblo Tribes of the Pacific Slope of the United States. Isaac B. Choate, The Mood of the Verb in Conditional Clauses. Heinrich Frauberger, The Museums of Industrial Art in Austria. S. D. Peet, The Archæology of Europe and America compared. S. D. Peet, On the State of Society in the Primitive Age.

MICROSCOPY.

E. W. Morley, Results of Measurements of Eleven of Möller's *Diatomaceen Probe-Platten*. E. W. Morley, Micrometric Measurements of Rulings on Glass by Mr. Rogers. E. W. Morley, Micrometric Measurements of Rulings on Glass by Mr. Rutherfurd. W. H. Bullock, Simple

Means of adapting the Binocular Microscope to Defects in the Eye. R. H. Ward, Remarks on some American Contributions to the Development of the Modern Microscope. P. H. Van der Weyde, On a new System of Finder for the Microscope. P. H. Van der Weyde, On a few Simplifications of the Polarizing and of the Spectroscopic Microscope. P. H. Van der Weyde, On some Modifications and Special Attachments to the Microscope for Chemical Research. George Beatty, Results obtained by Double Staining of Muscular Tissue of Amphiuma with Picric Acid and Carmine.

SCIENTIFIC SERIALS.[1]

THE GEOLOGICAL MAGAZINE. — August. Contributions to the Study of Volcanoes, by J. W. Judd. Pebble Ridges, by T. M. Reade. Remarks on Mr. Burns's Paper on the Mechanics of Glaciers, by James Croll.

MONTHLY MICROSCOPICAL JOURNAL. — August. Observations upon Spermatozoa of *Amphiuma tridactylum*, by C. Johnston. On the Ossification Process in Birds, and the New Formation of Red Blood-Corpuscles during the Ossification Process, by Dr. L. Schöney. On a Possible Explanation of the Method employed by Nobert in ruling his Test-Plates, by W. A. Rogers.

THE GEOGRAPHICAL MAGAZINE. — August. Sketches of Life in Greenland. The Basin of the Ob and Yenisei Rivers. The Seat of War. Dr. Beccari's Third Visit to New Guinea, by H. H. Griglioni. The Sea-Level, by H. P. Malet.

ANNALES DES SCIENCES NATURELLES. — June 30th. Mémoire sur les Mœurs et l'Accouchement de l'*Alytes obstetricans*, par A. De L'Isle. Mémoire sur l'Embryologie de quelques Éponges de la Manche, par Ch. Barrois.

ERRATA.

IN the article on Progress of Ornithology in the United States, etc., published in the September number, the following corrections should be made: —

Page 540, 13th line from top, dele "and has recently been republished."

Page 541, add to the last line of the first paragraph, "and fifty prepared especially for this edition."

Page 544, 17th line from top, for "Lawrence and Fowler" read "Lawrence, Gregg, and Fowler."

Page 544, 16th line from bottom, for "Hoy and Barry" read "Pratten, Hoy, and Barry."

Page 545, 15th line from bottom, for "*Tringaæ*" read "*Tringeæ*."

Page 545, 9th line from bottom, for "myology" read "osteology."

Page 546, 11th line from bottom, for "Rogers and Wilkes" read "Perry and Wilkes, and Lieutenant Gilliss."

Also, in the article entitled Microscopes at the Loan Collection of Scientific Apparatus at the South Kensington Museum, the author's name should be "John Michels," instead of "John Nichols."

[1] The articles enumerated under this head will be for the most part selected.